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ABSTRACT

The paper seeks to emphasize certain important dimensions of the economics of worker alienation which have been underemphasized, if not overlooked. Most satisfying jobs are not available without cost to someone. Workers often face a choice between job satisfaction and pecuniary rewards. With this context in mind., the author discusses several possible interpretations of "alienation" which fall within the boundaries of conventional economics. Basic economic principles help to clarify the concept of alienation and the policy questions surrounding it. It is also stressed that costs are involved in job rotation and job redesign. In many cases, workers face a trade-off between real income and job satisfaction. This trade-off has largely been ignored in much of the recent literature. In such studies as Lordstown, a radical departure from previous patterns is not represented but simply a renewal of the long-term trend toward improved working conditions. "Alienation" is interpreted as a form of disequilibrium between production constraints and worker aspirations. A final recommendation suggests that future studies concentrate not simply on worker opinions but also on the cost trade-offs. (BP)

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Working Paper 1974-02

ON THE ECONOMICS OF WORKER ALIENATION

by

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The literature on worker alienation, "[illegible]llar blues," and job enrichment has expanded vastly in the last several years. The Lordstown incidents of 1971-72 undoubtedly contributed to this blossoming of interest. The media widely reported worker carelessness, slowdowns, and sabotage on the assembly line of a General Motors Vega plant. Allegedly, these were responses to the monotony, rapidity, and "dehumanization" of their jobs.[1]

Several recent articles and books have analyzed data drawn from surveys of worker attitudes. Typically these correlate measures of job interest and aspirations with a variety of variables such as age, education, wage, type of job, union representation, and political belief.[2] Others have concentrated on long-term trends in various indexes of work satisfaction such as strike frequencies, turnover rates, and responses to national opinion survey questions.[3] Still others have suggested pragmatic methods of coping with worker alienation.[4]

In December 1971, Secretary of Health, Education and Welfare Richardson appointed a Special Task Force to examine the institution and quality of work. The Task Force concluded in their widely publicized report, Work in America:

> "Because work is central to the lives of so many Americans, either the absence of work or employment in meaningless work is creating an increasingly intolerable situation. The human costs of this state of affairs are manifested in worker alienation, alcoholism, drug addiction, and other symptoms of poor mental health. .... Likewise, industry is paying for its continued attachment to Tayloristic practices through low worker productivity and

> high rates of sabotage, absenteeism, and turnover. Unions are paying through the faltering loyalty of a young membership that is increasingly concerned about the apparent disinterest of its leadership in problems of job satisfaction."[5]

The Task Force recommended that both the private and public sectors commit themselves to investing heavily in job redesign, increasing worker mobility through expanded retraining and relocation opportunities, and promoting policies which create jobs.[6]

My purpose in this paper is to emphasize certain important dimensions of the issue which I feel have been underemphasized if not overlooked in the debate. More satisfying jobs are not available, in general, without cost to someone. Workers often face a choice between job satisfaction and pecuniary rewards. In this context, I discuss several possible interpretations of "alienation" which fall within the boundaries of conventional economics. The implications of these interpretations are discussed.

The Costs of Job Satisfaction

Since Adam Smith, economists have differentiated between the pecuniary and non-pecuniary dimensions of the job. Smith remarked that the aversion which many have for the undesirable jobs of butcher and blacksmith raises wages in these jobs relative to other trades of equal difficulty.[7] Presumably, unpleasant and tedious jobs such as those on the assembly line are also compensated more liberally in order to induce reluctant persons to endure them. And to the extent that unions have successfully organized these jobs and raised their relative wages, the pecuniary compensation has increased even more.

In general, there will be a trade-off between pecuniary and non-pecuniary returns on a job. Workers might prefer to vary their day by rotating among various jobs in the shop rather than to do the same monotonous job continually. For instance, the butcher might like to alternate between cutting, packing, and weighing while the assembler might prefer rotating from fender installation to soldering to spray painting. Or they might like to vary their day among manual and clerical tasks. Even these simple variations in work patterns can be expected to impose some costs upon the employer. Each person must be trained, not just for one task, but for several tasks. Instructors must be paid, materials must be purchased, and production must be foregone during training.

These costs vary greatly with the nature of the firm, individual, and job. A survey of training costs in Rochester, New York in 1965-66 estimated that the average training costs (excluding orienation) varied from $23 for unskilled and semi-skilled workers in non-manufacturing to $214 for skilled workers in manufacturing.[8] In addition to these training costs, there will generally be some foregone production while the worker is in transit to his next job. Although these costs may be inconsequential for any one individual, the costs of job rotation may be substantial for the total work force of a firm or industry.

This is not to suggest that such costs need be prohibitive. They might be more than offset by the savings from reduced labor turnover and absenteeism and from the increased productivity of the workers.[9] If so, it is in everyone's interest (firm, worker, and consumer) that the worker rotate jobs. And it would be quite reasonable to expect management to experiment with such changes in work patterns whenever the costs of turnover, absenteeism, and low morale become excessive.

On the other hand, if the expected discounted rotation costs exceed the expected discounted savings from reduced turnover and absenteeism, the firm cannot be expected to undertake the rotation program voluntarily. However, if the workers were willing to accept lower wages or perhaps to forego part of a wage increase, management should be more willing to alter work patterns so as to make them more compatible with the wishes of labor. In this sense, the worker faces a trade-off between pecuniary and non-pecuniary rewards from the job.

The extent to which a worker is willing to give up money income for a "stimulating job" depends upon his preferences. Some artists spend their lives in poverty partly because of a preference to "do their own thing" (and partly in hope of eventual success and riches). In this connection, it is interesting to note that approximately one-third of all those lining up a new job prior to quitting another job report that they opted for better hours, fringe benefits, and working conditions while accepting wage cuts.[10] Yet the massive migration of population out of farming (which by reputation engenders self-reliance and variation of tasks) into "routine" and "stifling" factory jobs suggests that many are not willing to make substantial pecuniary concessions for non-pecuniary rewards. The magnitude of such trade-offs are empirical questions which undoubtedly differ greatly from person to person and from firm to firm. Such measurement problems are challenging topics for future research.

Simple rotation of personnel among existing jobs may not be sufficient to measurably increase job satisfaction. The Special Task Force recommended that jobs be totally redesigned in some cases. However, the costs associated with this strategy may be substantial, involving large physical capital investments in addition to human capital investments.

It is not clear that such large investments will yield a profitable return through reduced turnover and increased morale.

Some job redesign plans may greatly reduce productive efficiency, raise costs and prices, and decrease sales and jobs. For instance, some auto workers might prefer assembling a car "from A to Z" rather than merely tightening one particular bolt every 36 seconds. But what would be the cost? Suits reports that the introduction of Henry Ford's assembly line reduced the man-hour input by 309 hours per vehicle which contributed heavily to the reduction in selling price from $950 to $360 per Model T between 1909 and 1916. The lower price expanded sales so rapidly that employment rose by a factor of nineteen.[11] A return to 1909 production techniques would be unthinkable today, of course. But the point is simple; substantial costs could be encountered in redesigning jobs if production efficiency is ignored.

Economics Concepts of Alienation

These principles can be illustrated by use of the economist's standard tools. In Figure 1, the production possibilities frontier PP indicate the possible combinations of physical production and psychic utility which are feasible for an individual given current technology and the worker's human capital. One can work at a point such as "A" using very efficient techniques or one may be employed at a point such as "B" emphasizing the psychic dimensions of the job. It is assumed that worker compensation is positively and closely related to productive efficiency.

Worker preferences are expressed by indifference curves such as UU and U'U'. An individual searches for the best job by trial and error. His first job may be interesting but pay little. His second job may be finan-

cially rewarding but of limited satisfaction. The worker will change jobs so long as job dissatisfaction exceeds the costs of mobility.[12] After a succession of trials and errors, an individual tends to settle on a job which approximates the combinations most preferred. Such behavior accounts in part for the high mobility rates of young persons. As they gain more experience with various jobs and with age, their mobility rates decline.[13]

Employers will also feel their way towards an optimal mix of efficiency and psychic satisfaction in designing jobs. Various types of job rotation can be experimented with until an efficient combination is identified. Where sizeable alterations or additions in capital are required, adjustments will occur slowly and irregularly. New firms entering the labor market and expanding firms will more easily adjust to the changing wishes of the work force.

In the long run, economic theory suggests that jobs and workers will tend towards an equilibrium such as at "E" in Figure 1. Workers may not have satisfying jobs in an absolute sense but they will be unwilling to give up any additional income in order to obtain more stimulating work. Similarly, workers may not have the highest paying job that they could possibly obtain but they will be unwilling to take on more demanding work in order to increase their income.

Does economic history substantiate these concepts? In my view, it does. Theory predicts rising demand for all "normal goods" including consumer goods and services, leisure time, and psychic job satisfaction as real incomes rise, other things held constant. H. Gregg Lewis in a well-known article has explained the long-run decline of average working hours in terms of dominating "income effects" which have induced workers to demand more leisure.[14] Firms have been forced to respond to these

demands during periods of full employment and labor shortages in order to remain competitive. It seems reasonable to expect that similar phenomena would apply to working conditions. Although working conditions are difficult to measure, casual observation suggests that the dangerous and dirty sweatshops of Upton Sinclair's day are much less prevalent today.

What might "alienation" mean in terms of these economic principles? The most obvious interpretation might be that the alienated are those who are out of equilibrium. For example, a person currently at point "A" in Figure 1 would prefer to have a job which has characteristics more compatible with point "E". The worker would be unhappy with his current job but could improve his situation by searching for a more attractive position and then quitting. Any one worker or small group of individuals could adjust in this manner. But if large numbers of workers are out of equilibrium, employers are going to have to alter their plant, equipment, and production practices so that adjustment will be slower.

Why might large numbers of workers be out of equilibrium? Much of the recent literature has suggested that the entry of a new generation of workers having different values than their parents is the explanation. The argument is that the younger generation has been radicalized by the Vietnamese War, the declining quality of life and the environment, and social strife. While there may be some truth in this argument, an equally plausible explanation is that Lordstown is just another step in the long term increase in demand for job satisfaction.

A related interpretation of "alienation" might be that the individual is at an interior point such as "C". At "C" the firm is not utilizing its resources effectively. Job redesign will increase worker satisfaction and productivity by increasing morale and decreasing turnover and absenteeism.

This is the case discussed earlier in which management has an incentive to make adjustments without being compensated by wage cuts. Where labor and product markets are sufficiently competitive this type of disequilibrium cannot persist for long.

A third possible interpretation of "alienation" is that workers may aspire to achieve a point such as "D" at which they enjoy greater job satisfaction while maintaining or increasing their earnings. Such a combination is infeasible given present technology and skills. This example corresponds to the notion of rising expectations. Many have suggested that job satisfaction depends not upon absolute levels of happiness but upon expected rewards relative to actual rewards.[15] Increasing education and awareness of the world may induce younger workers to aspire for better jobs than are feasible.

Psychologists and sociologists may be more qualified to analyze this case than economists. However, we can indulge in some speculation using economic tools. Alienation imposes costs on the individual and upon society to the extent that it induces tension, violence, sabotage, and a misallocation of resources. As the alienated worker comes to experience difficulty in holding down a job, getting promoted, and enjoying life, he will gradually adjust his aspirations downward.[16] As employers and society realize that alienated workers are reducing productivity and raising production costs, they can try to speed up the adjustment process by a program of education and information. Or society could attempt to meet the demands in part by redistributing income, leisure, or jobs. The Special Task Force recommended the latter implicitly when it suggested job creation programs and expanded retraining.

Another interpretation of "alienation" in terms of basic economic concepts is expressed in Figure 2.[17] The production possibilities curve is discontinuous, reflecting the case in which intermediate alternatives are not available. A worker must choose between an efficient but demanding job and a satisfying but financially unrewarding position. Perhaps this is due to technological constraints or perhaps because most workers gravitate towards one extreme or the other. In the latter case, economies of scale could prohibit jobs of type "G" from being offered to the few who desire them. If technology is the ultimate constraint, this case is similar to the case of unrealistic aspirations discussed above. If economies of scale are the constraint, the changing aspirations of a new generation of workers will gradually eliminate the problem.

Conclusions

Basic economic principles help to clarify the concept of alienation and the policy questions surrounding it. In this paper, I have stressed that there are costs involved in job rotation and job redesign. In many cases, workers face a trade-off between real income and job satisfaction. This trade-off has largely been ignored in much of the recent literature.

This paper suggests also that incidents such as Lordstown may not represent a radical departure from previous patterns but simply a renewal of the long-term trend toward improved working conditions.

Finally, I interpret "alienation" as a form of disequilibrium between production constraints and worker aspirations. In competitive markets there are forces which will tend to minimize worker alienation and increase job satisfaction. This is not to suggest that there is no reason for concern or study. In fact, imperfect information is one of the most important

barriers to rational adjustment by workers and management. I recommend that future studies concentrate not simply upon worker opinions but also upon the cost trade-offs.

Footnotes

1 Other more conventional factors were also responsible for the protests such as the introduction of a new "efficiency-oriented" management which laid-off 300 workers and resorted to a disciplinary crackdown. See Emma Rothschild, "G. M. in More Trouble," The New York Review of Books (March 23, 1972), pp. 18-25; Barbara Garson, "Luddites in Lordstown: It's not the Money, It's the Job," Harpers (June, 1972), pp. 68-73.

2 For examples see Harold L. Sheppard and Neal Q. Herrick, Where Have All the Robots Gone? Worker Dissatisfaction in the '70's (New York: The Free Press, 1972); Jon M. Shepard, "Specialization, Autonomy, and Job Satisfaction," Industrial Relations, 12 (October, 1973), pp. 274-281, and "Functional Specialization, Alienation, and Job Satisfaction," Industrial Relations, 11 (February, 1972), pp. 34-45; Sar A. Levitan, ed., Blue-Collar Workers (New York: McGraw Hill, 1971); for earlier studies see, Robert Blauner, Alienation and Freedom: The Factory Worker and His Industry (Chicago: University of Chicago Press, 1964); Milton R. Blood and Charles L. Hulin, "Alienation, Environmental Characteristics, and Worker Responses," Journal of Applied Psychology, 51 (June, 1967), pp. 284-290; Victor H. Vroom, Work and Motivation (New York: John Wiley, 1964), Chapters 5-6.

3 See articles in the Monthly Labor Review, Vol. 96, by Harold Wool, "What's Wrong with Work in America? - A Review Essay," (March, 1973), pp. 38-44; H. Roy Kaplan, "How Do Workers View Their Work in America?" (June, 1973), pp. 46-48; Robert Quinn, et. al., "Evaluating Working Conditions in America," (November, 1973), pp. 32-41. Little evidence of increasing dissatisfaction has been found by these authors although inherent measurement problems leave the question open for further work.

4 See for instance, Richard E. Walton, "How to Counter Alienation in the Plant," Harvard Business Review (November-December, 1972), pp. 70-81; M. Scott Myers, "Overcoming Union Opposition to Job Enrichment," Harvard Business Review (May-June, 1971), pp. 37-49.

5 Work in America: Report of a Special Task Force to the Secretary of Health, Education, and Welfare (MIT Press, 1972), p. 186.

6 Ibid.

7 Adam Smith, The Wealth of Nations (New York: Modern Library edition, 1937), p. 100.

8 John G. Myers, Job Vacancies in the Firm and the Labor Market (New York: The Conference Board, 1969), pp. 86-93.

9 Vroom, op. cit., pp. 175-187, offers empirical evidence on the correlations amoung satisfaction, turnover, absenteeism and productivity. It is interesting that he finds little possitive correlation between satisfaction and job performance.

10 See J. Peter Mattila, "Job Quitting and Frictional Unemployment," forthcoming in the American Economic Review (March, 1974).

11 Daniel B. Suits, Principles of Economics (New York: Harper and Row, 1970), p. 434.

12 For empirical evidence on mobility and satisfaction see Herbert S. Parnes, et. al., The Pre-Retirement Years, Vol. 3 (August, 1972), pp. 37-41, and Andrew I. Kohen, Career Thresholds, Vol. 4 (January, 1973), pp. 68-70, Center for Human Resource Research, Ohio State University, Columbus, Ohio.

13 Charles C. Holt and Martin David, "The Concept of Job Vacancies in a Dynamic Theory of the Labor Market," The Measurement and Interpretation of Job Vacancies (New York: National Bureau of Economic Research, 1966), p. 80.

14 H. Gregg Lewis, "Hours of Work and Hours of Leisure," Proceedings of the Industrial Relations Research Association (December, 1956), pp. 196-206.

15 Vroom, op. cit., pp. 165-167.

16 The adjustment of worker aspirations to unemployment and search is discussed in Charles C. Holt, "Job Search, Phillips' Wage Relations, and Union Influence," in Edmund Phelps, ed., Microeconomic Foundations of Employment and Inflation Theory (New York: W. W. Norton & Co., 1970), pp. 61-74 + 96-101.

17 I am indebted to Harvey Lapan for suggesting this case to me. He is not responsible for any errors of analysis, of course.

FIGURE 1

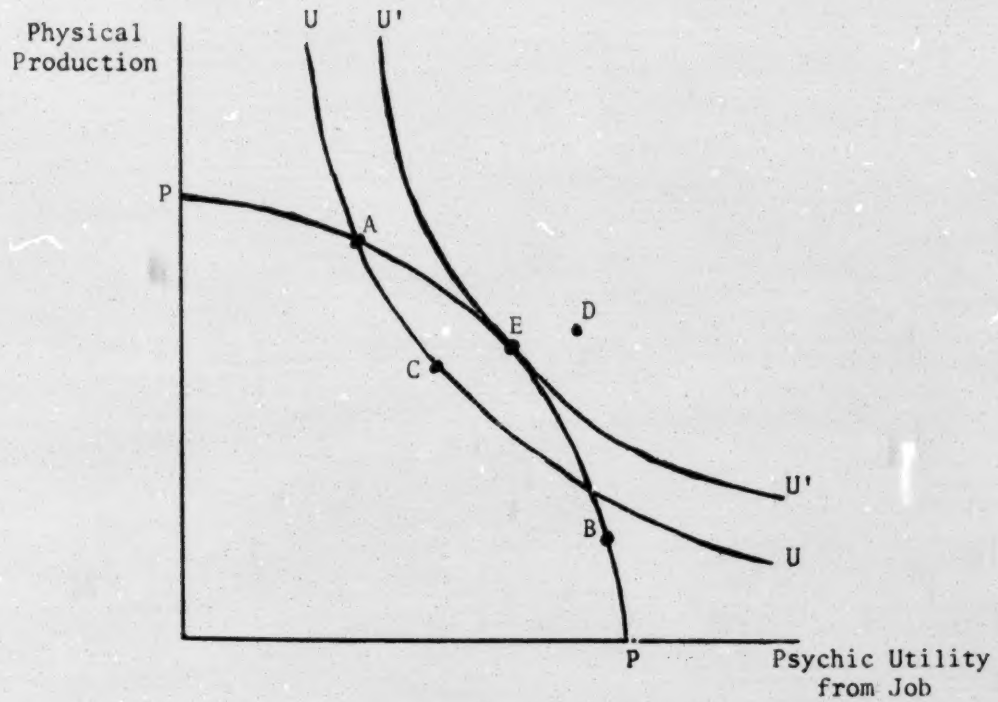

FIGURE 2

1951-1953 and 1966-1968 as years of lowest unemployment and 1958-1963 as a period of generally depressed labor markets. In all twenty-one detailed manufacturing industries, females had considerably lower turnover relative to men during 1966-1968 than was the case during the recession years.[21] In all but five industries, the quit ratio was also lower in 1951-1953 than in 1958-1963 in spite of the differing nature of the surveys and the bias discussed previously.[22]

Additional confirmation of this cyclical phenomenon is available in Table 1. Female to male quit ratios were smaller in 1955, a year of relatively full employment, than they were in 1961, a recession year. This was true nationally, in all age groups, and in most occupations and industries.[23]

Why do relative quit ratios decline so much as unemployment rates fall? Some answers are suggested by Table 2. In part, rising employment opportunities induce a rapid expansion in job changing which tends to swamp the relatively constant proportion of quits to leave the labor force.[24] Algebraically, one can think of quit rates (Q) as being composed of a labor force exit component (LFE) and a job changing component (JC). The female (FQ) to male (MQ) quit ratios can be written as:

$$(2)\quad \frac{FQ}{MQ} = \frac{FLFE + FJC}{MLFE + MJC}$$

During a recession, when everyone finds it difficult to line up better jobs,[25] job changing will be minimal so that the relatively high propensity of women to leave the labor force (FLFE) will dominate and tend to cause the ratio to exceed one. As opportunities expand, however, the job changing components will come to dominate and the ratio will fall towards one.